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CENTRAL INTELLIGENCE AGENCY

INFORMATION REPORT

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SECURITY INFORMATION

COUNTRY	East Germany	REPORT	
SUBJECT	Development of Prototypes for Torpedo Boats at the Rosslau Shipyards	DATE DISTR.	21 August 1953
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PLACE ACQUIRED		REFERENCES	25X1

This is UNEVALUATED Information

THE SOURCE EVALUATIONS IN THIS REPORT ARE DEFINITIVE.
THE APPRAISAL OF CONTENT IS TENTATIVE.
(FOR KEY SEE REVERSE)

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INTRODUCTION

1. the TKM section (Technical Machine Design Office), 25X1 prepare drawings of machinery installations for an alleged sport boat. Meanwhile, the boat itself was being designed by engineers LAUTERBACH and WIENNERS of the TKS section (Technical Ship Design Office). In June 1952, the sport boat project was assigned to two special sections of the Rosslau Shipyard, TKM/S (Technical Machine Design Office, Special) and TKS/S (Technical Ship Design Office, Special). 25X1 a working model for a torpedo boat (Schnellboot). 25X1

M-1 MODEL (See Enclosure (A))

Dimensions

2. The M1 is only a twin-screw model, which was used in order to find the best ship's form for the "Forelle." The engine horsepower required was proportional to the 2500 h.p., which will be required in the "Forelle."

NAVY Review Completed

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25 YEAR RE-REVIEW

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3. The boat, 9 meters in length and 2.2 meters in beam, is a V-frame boat with a V-shaped planing bottom ascending toward the stern. The shaft inclination to the O-line is $6^{\circ}30'$.

Machinery Layout

4. Two 80 hp V-8 motors were used. the stem tube /see Enclosure (B)/ out of light metal, an aluminum alloy, with plastic bearings, which are water lubricated, reduction gear for the starboard engine, and "Koker" (shaft end bearing and rudder stem). 25X1 25X1

5. The stem tube is constructed to allow rapid and easy replacement of plastic bearings, water seal gaskets, and rapid withdrawing of the shaft itself. The hull section to which the stem tube is attached is made out of hydronalium (HY 7).

6. The reduction gear for the starboard engine was redesigned in order to reverse the direction of rotation. The reduction ratio is 1:1.725. The starboard reduction gear is disconnected by remote control for reverse, i.e., the boat can go astern only on the port engine.

Experimental Test Results

7. In the beginning of January 1953, the M1 was completed and trial runs were undertaken. After the trial runs were completed, the M1 was supposed to be equipped with Maybach 100 hp engines and retested.

8. It was expected that each motor fully loaded would produce 75 hp at propeller rpm of 1650. The thrust per propeller was rated at 500 kgs. The speed expected from 1000 kilograms was 43 kilometers per hour. However, during the first trial run on the Elbe, the actual performance obtained was a propeller rpm of approximately 1150 and an average speed of 35 kilometers/hour. The boat handled very well even though the stern was drawn too deep into the water. When the teststand check was made in order to ascertain why the rated propeller rpm of 1650 was not reached, it was found that each Ford motor was putting out 44 hp. only. If the full rated engine horsepower is reached, it is most likely that the rated speed of 43 kilometers per hour will be reached.

M-2 MODEL /see Enclosure (C)/

Dimensions

9. All drawings for the M2 were ready on March 28, 1953. The original plans for the M2 were given to the special groups in a finished form with the dimensions in feet and inches. The design group had only to convert the dimensions to the metric system and redraw the design to the proper scale. The shops had started on the hull. It is intended that the first M2 will also be equipped with V-8 engines in order to gain a basis of comparison. If it is not possible to obtain the desired output or should there be other serious difficulties, then Maybachs will be installed in the first M2. As mentioned above, it is intended to install Maybachs in the M1 for retesting. 25X1 25X1 25X1

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10. Its dimensions are the same as the M1 except the hull design is different. The M2 will have a very pronounced V-shaped planed bottom having practically a straight keel line to the stern. The shaft inclination to the O-line will be 8° 45'.

Machinery Layout

11. In principle, the M2 has the same accessories and engine layout as the M1.

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Enclosure (A) - Design and Machinery Layout of the M1 Torpedo Boats (2 pages)

Enclosure (B) - Stem Tube Drawing for M1 and M2 Torpedo Boats

Enclosure (C) - Design of the M2 Torpedo Boat

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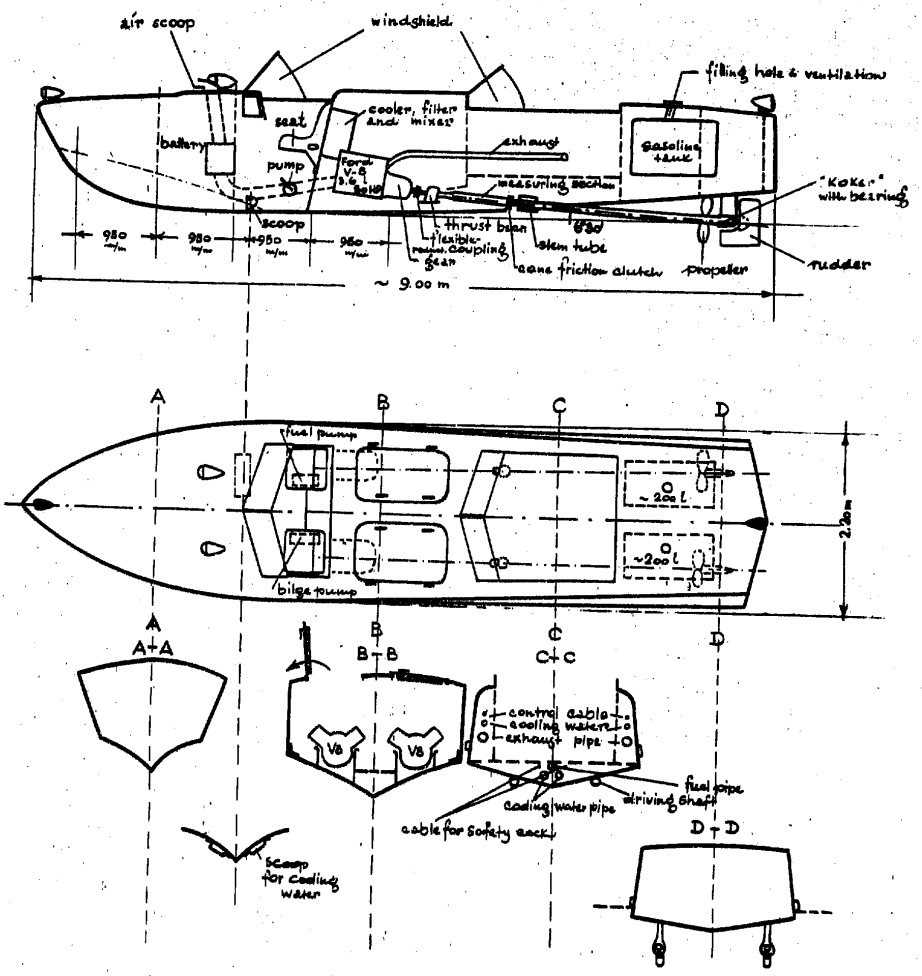

DESIGN & MACHINERY LAYOUT of the M1 TORPEDO BOAT

Enclosure (A)

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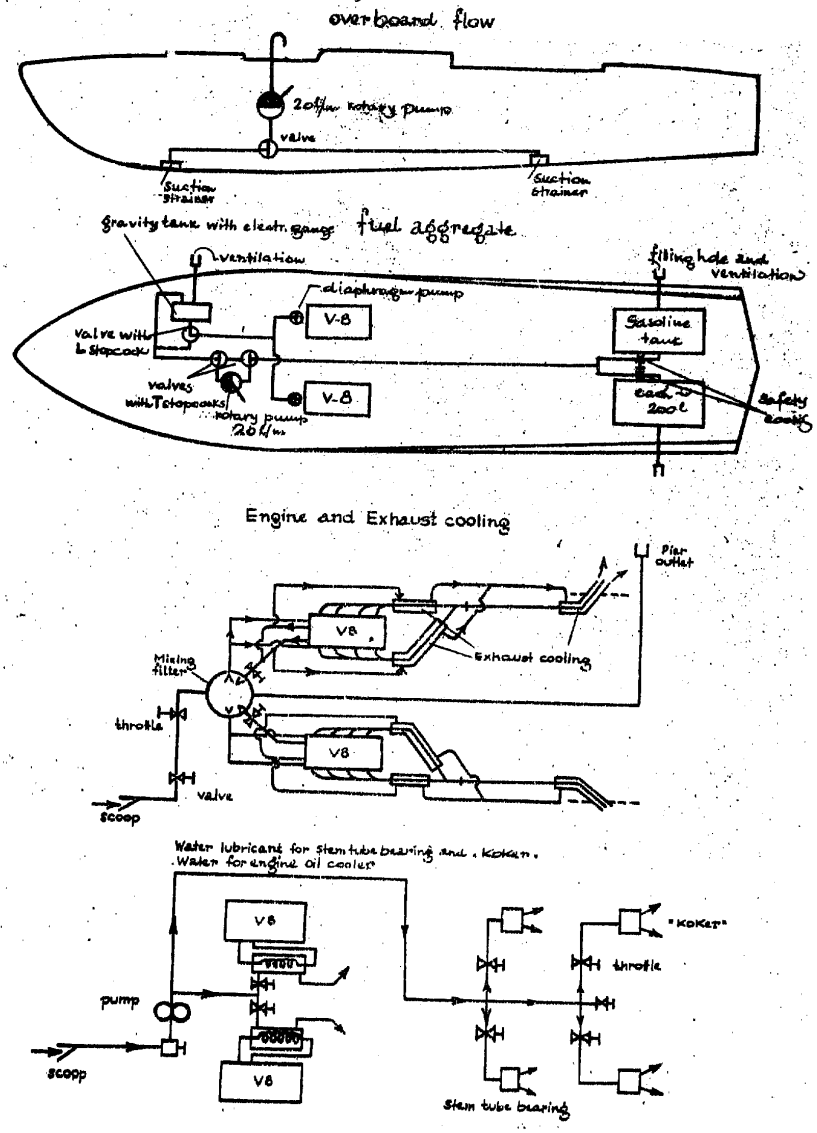

DESIGN & MACHINERY LAYOUT of the M1 TORPEDO BOAT

Enclosure (A)

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STEM TUBE of the M1 and M2 TORPEDO BOATS Enclosure (B)

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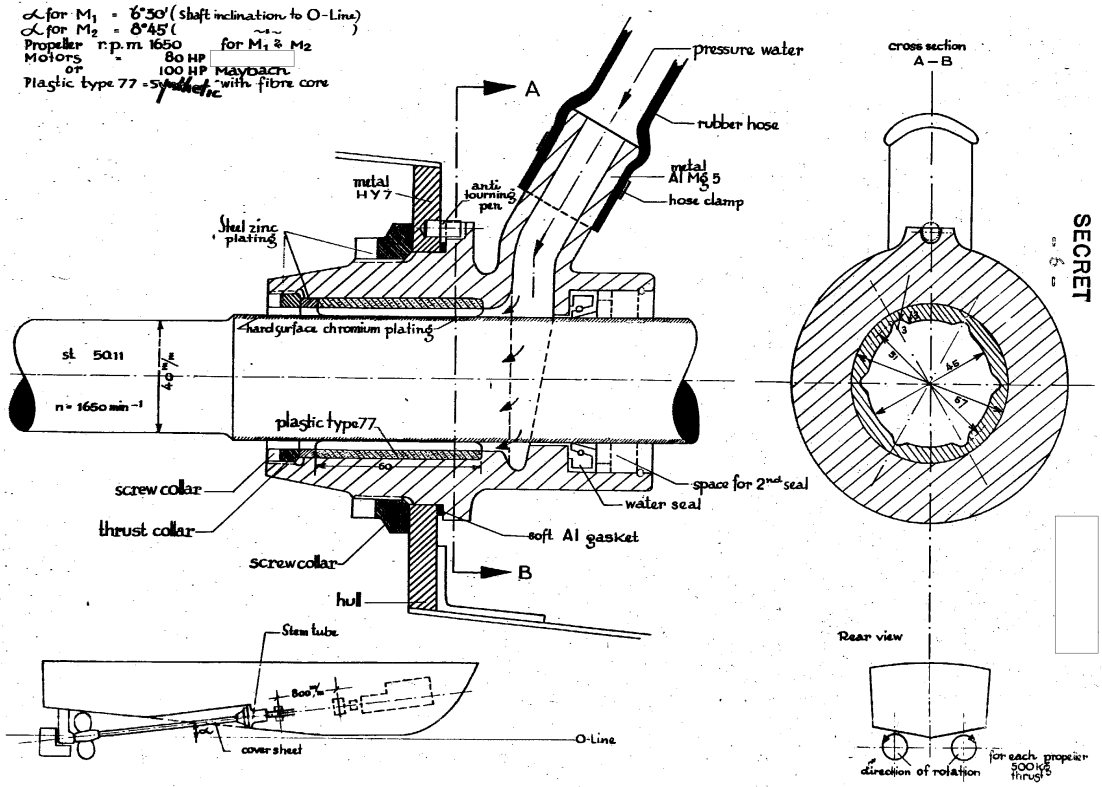

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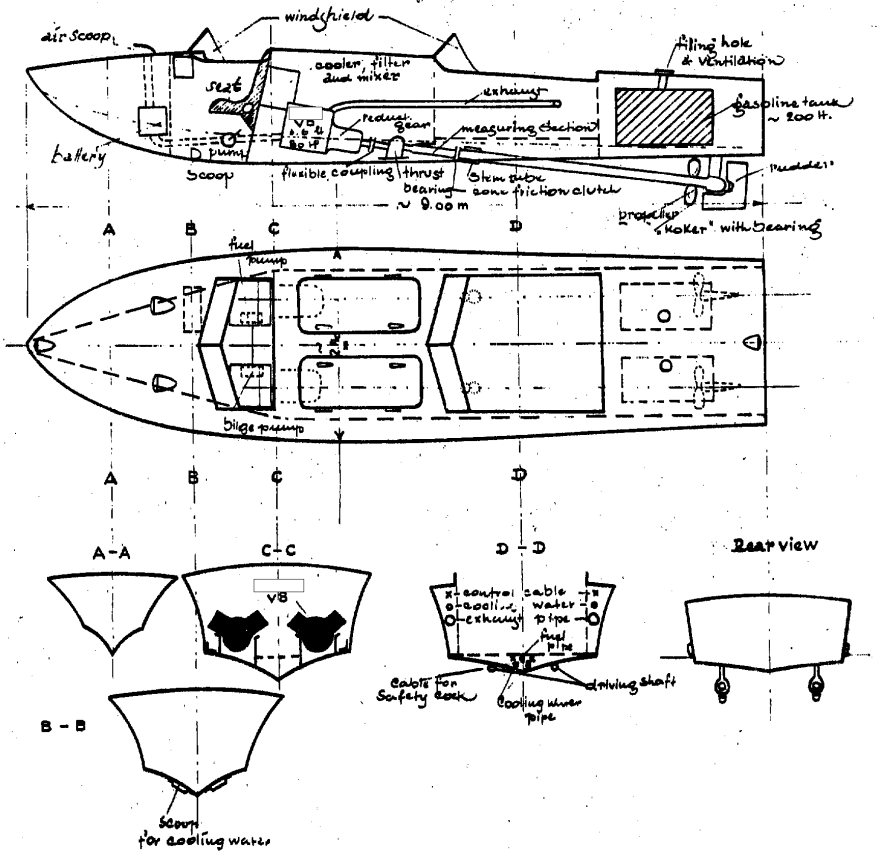

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DESIGN of the M2 TORPEDO BOAT

Enclosure (C)

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